DETAILED ACTION

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection presented below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 4-6, and 9-16 are rejected under 35 U.S.C. 103 as unpatentable over OPENTV, WO 01/33852 in view of Goodman et al., US 6,427,238.

Regarding claim 1, OPENTV discloses a method and use of transmitting interactive television, whereby at least an interactive television application is transmitted inside application-modules in a broadcast stream that includes television content, wherein said method facilitates recording **[p. 5, ll. 26-27]** of said broadcast stream at a receiver, said method comprising the step of

Including storage related information for each of said modules in a transmitted broadcast stream **[p. 4, 32-35; p. 5, 26-27, pp. 6-7, lines 37-5]**; and

characterized in that said storage related information comprises categories indicating whether each said module is alternatively mandatory for recording **[if program is to be played immediately, the data objects are deemed *necessary*, p. 4, 31-32; flags are inserted identifying objects that *need* to be cached, p. 5, line 25-26]**, optional for recording **[programs can be stored at the option of the user, p. 6, 38, p. 8, 26-27; modules categorized as within a validity range are available, p. 8, 5-7]**, or forbidden **[live data objects are not stored, p. 3, line 20; objects categorized as outside their validity range are unavailable for storage, p. 8, 5-7]** to be recorded at the receiver.

While OPENTV discusses mandatory and optional modules generally, it does not describe the different categories specifically as recited. In an analogous system, Goodman teaches transmitting interactive application modules wherein mandatory modules contain files that are critical for running a corresponding application from storage **[col. 6, 7-18; col. 10, 30-34]**, and wherein optional modules contain files that offer a corresponding application extra features **[col. 6, 36-42]**. Given OPENTV's discussion of module characteristics generally, it would have been obvious to one skilled in the art that modules essential for basic interactive functionality must be downloaded, while those merely offering enhancements might only be downloaded when bandwidth or storage space is readily available. One motivation, discussed in Goodman itself, is to conserve memory space in the set top box **[col. 2, 1-7]**.

Regarding claim 4, OPENTV discloses a method according wherein said storage related information further comprises module identification information **[p. 5, line 15; p. 7, 24-28]**.

Regarding claim 5, OPENTV discloses a method wherein the step of including storage related information comprises including said storage related information in an Application Information Table **[file table, p. 3, 5-19]** and/or in a Download Information Indication message.

Regarding claims 6 and 12, OPENTV discloses a method whereby said module identification information is defined and included in the AIT and consists of two fields, the first field being an organisation_id **[e.g., version number or carousel ID, p. 5, 13-16]** and the second field being an application_id **[object identifiers are transmitted, p. 2, line 35]**, whereby said id values are used to identify identical applications **[version numbers are used by the receiver to identify identical versions, for example to filter incoming data objects, p. 5, 24-28]**.

Regarding claim 9, OPENTV discloses a method whereby said signaling storage related information comprises signaling of properties of a module chosen from code and/or data **[p. 5, 29-30]**.

Regarding claims 10 and 11, OPENTV discloses a method of receiving an interactive television broadcast stream for recording, whereby at least an interactive television application is comprised in the broadcast stream inside application-modules , said method comprising the steps of

extracting storage related information for each of said modules from said broadcast stream **[p. 5, 12-18]**, and

recording modules which are mandatory or optional for recording, based on said storage related information **[flags indicate data objects that *need* to be recorded, p. 5, 24-28]**;

characterized in that said storage related information comprises categories indicating whether said modules are alternatively mandatory for recording **[if program is to be played immediately, the data objects are deemed *necessary*, p. 4, 31-32; flags are inserted identifying objects that *need* to be cached, p. 5, line 25-26]**, optional for recording **[programs can be stored at the option of the user, p. 6, 38, p. 8, 26-27; modules categorized as within a validity range are available, p. 8, 5-7]**, or forbidden **[live data objects are not stored, p. 3, line 20; objects categorized as outside their validity range are unavailable for storage, p. 8, 5-7]** to be recorded.

While OPENTV discusses mandatory and optional modules generally, it does not describe the different categories specifically as recited. In an analogous system, Goodman teaches transmitting interactive application modules wherein mandatory modules contain files that are critical for running a corresponding application from storage **[col. 6, 7-18; col. 10, 30-34]**, and wherein optional modules contain files that

offer a corresponding application extra features **[col. 6, 36-42]**. Given OPENTV's discussion of module characteristics generally, it would have been obvious to one skilled in the art that modules essential for basic interactive functionality must be downloaded, while those merely offering enhancements might only be downloaded when bandwidth or storage space is readily available. One motivation, discussed in Goodman itself, is to conserve memory space in the set top box **[col. 2, 1-7]**.

Regarding claim 13, OPENTV discloses a method whereby said interactive television is MHP, OpenTV or DASE **[Summary section describes OPEN protocol. pp. 2-3]**.

With respect to claim 14, OPENTV discloses an apparatus for recording and/or playing back interactive television, said apparatus being adapted to record and/or playback an interactive television broadcast stream to and from a storage medium respectively, said apparatus being adapted to receive said interactive television broadcast stream, said broadcast stream including television content, an interactive television application contained in modules, and storage related information for each of said modules, said apparatus comprising

means for extracting storage related information of said modules from said broadcast stream **[p. 5, 12-18]**, and

means for recording modules in dependence on said storage related information, **[receiving station 18 and mass storage device 16, Fig. 1]**

characterized in that said storage related information comprises categories indicating whether said modules are alternatively mandatory for recording **[if program is to be played immediately, the data objects are deemed *necessary*, p. 4, 31-32; flags are inserted identifying objects that *need* to be cached, p. 5, line 25-26]**, optional for recording **[programs can be stored at the option of the user, p. 6, 38, p. 8, 26-27; modules categorized as within a validity range are available, p. 8, 5-7]**, or forbidden **[live data objects are not stored, p. 3, line 20; objects categorized as outside their validity range are unavailable for storage, p. 8, 5-7]** to be recorded, and said means for recording being adapted to record only modules for which said storage related information allows recording.

Regarding claim 15, OPENTV discloses an apparatus whereby said storage related information comprises module identification information for modules, and whereby said apparatus further comprises means for preventing recording of more than one application module with identical module identification information on a storage medium in said apparatus **[version numbers are used by the receiver to identify identical versions, for example to filter incoming data objects, p. 5, 24-28]**.

Regarding claim 16, OPENTV discloses a computer-readable medium having embodied thereon a computer program for processing by a computer, said computer

program causing said computer to prepare and transmit an interactive television broadcast stream facilitating recording by a receiver, the computer program comprising

a code segment for causing the computer to include application modules and storage related information for each of the application modules in an interactive television broadcast stream, at least an interactive television application being included inside said application modules **[broadcast station 12 and application execution engine perform the method disclosed in OPENTV, see Summary, pp.2-3; p. 4, 11-35]**;

a code segment for causing the computer to transmit the interactive television broadcast stream **[p. 4, ll. 26-29; p. 4, 11-35]**,

characterized in that said storage related information comprises categories indicating whether said modules are alternatively mandatory for recording **[if program is to be played immediately, the data objects are deemed *necessary*, p. 4, 31-32; flags are inserted identifying objects that *need* to be cached, p. 5, line 25-26]**, optional for recording **[programs can be stored at the option of the user, p. 6, 38, p. 8, 26-27; modules categorized as within a validity range are available, p. 8, 5-7]**, or forbidden **[live data objects are not stored, p. 3, line 20; objects categorized as outside their validity range are unavailable for storage, p. 8, 5-7]** to be recorded.

While OPENTV discusses mandatory and optional modules generally, it does not describe the different categories specifically as recited. In an analogous system, Goodman teaches transmitting interactive application modules wherein mandatory modules contain files that are critical for running a corresponding application from

storage **[col. 6, 7-18; col. 10, 30-34]**, and wherein optional modules contain files that offer a corresponding application extra features **[col. 6, 36-42]**. Given OPENTV's discussion of module characteristics generally, it would have been obvious to one skilled in the art that modules essential for basic interactive functionality must be downloaded, while those merely offering enhancements might only be downloaded when bandwidth or storage space is readily available. One motivation, discussed in Goodman itself, is to conserve memory space in the set top box **[col. 2, 1-7]**.

Claims 2, 3, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over OPENTV and Goodman as cited above, in view of Metz et al., US 5,678,539.

Regarding claim 2, OPENTV does not disclose using DSMCC modules to transmit application data. Metz teaches this method at **col. 10, 5-12]**. One of ordinary skill would have been motivated to format the data modules disclosed in OPENTV for transmission via DSMCC protocol, in order to provide a standard data format usable by a wide range of receivers. Metz articulates the need for a standard interface protocol **[col. 4, 53-64]**. Using DSMCC provides a standard protocol that can be used across different receiver platforms.

Regarding claim 3, OPENTV discloses a method wherein said at least one application object comprises at least one application file object and at least one

application directory object, said application file object comprising at least one application file and said at least one application directory object comprising storage directory information on respective application file **[p. 3, 5-6; p. 5, 14-16]**.

Regarding claim 8, OPENTV discloses a system that generates groups of modules with similar storage related information in an object carousel for broadcasting **[carousels are groups of data objects that are transmitted together, with corresponding version numbers and carousel references, pp. 7-8, lines 26-2; p. 8, lines 22-28]**. As discussed above, Metz teaches the use of DSMCC protocol.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Timothy R. Newlin whose telephone number is (571) 270-3015. The examiner can normally be reached on M-F, 8-5 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (571) 272-7331. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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